State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-7-52
Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

DETROIT DIESEL CORPORATION

Pursuant to the authority vested in the Air Resources Board at Sections 43000.5, 43013, and 43018 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned at Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9; and

Pursuant to the December 15, 1998 Settlement Agreement between the Air Resources Board and Detroit Diesel Corporation and any modification to the Settlement Agreement;

IT IS ORDERED AND RESOLVED: That the following diesel engines and exhaust emission control systems produced by the manufacturer are certified as described below for use in heavy-duty off-road equipment:

Model Year: 2000

Typical Equipment Usage: Crane, Dozer, Compressor, Generator

Engine Power Ratings Range: 175 – 750 horsepower, inclusive

Fuel Type: Diesel

Engine Family	Displacement Liters	Displacement Cubic Inches	Exhaust Emission Control Systems and Special Features
YDDXL14.0TLD (Series 60, 14 L)	14.0	854	Engine Control Module Turbocharger Charge Air Cooler

The engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The exhaust emission certification standards and certification values in grams per brake horsepower-hour (g/bhp-h) for total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter (PM), and the opacity-of-smoke certification standards and certification values in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family are as follows (Title 13, California Code of Regulations, Section 2423):

	Exhaust Emissions (g/bhp-h)				Smoke Opacity (%)		
	THC	CO	NOx	PM	Accel	Lug	Peak
Standard	1.0	8.5	6.9	0.4	20	15	50
Certification	0.1	0.7	6.6	0.1	15	3	32

BE IT FURTHER RESOLVED: That the listed engine models comply with "Exhaust Emission Standards and Test Procedures—Heavy-Duty Off-Road Diesel-Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That the listed engine models also comply with "Emission Control Labels—1996 and Later Heavy-Duty Off-Road Diesel-Cycle Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Sections 2425 *et seq.*).

BE IT FURTHER RESOLVED: That the aforementioned engine family has been conditionally certified subject to the following conditions:

1. The Settlement Agreement is in effect.
2. The manufacturer is in compliance with all applicable certification requirements of the Settlement Agreement.

Engines certified under this Executive Order must conform to all applicable California emission regulations and to all applicable terms and conditions of the Settlement Agreement.

Executed at El Monte, California this 6th day of January 2000.

R. B. Summerfield, Chief
Mobile Source Operations Division

11/19/99

LARGE ENGINE MODEL SUMMARY

ED:U-R-7-52

Manufacturer: **Detroit Diesel Corporation**

Process Code: **New Submission**

EPA Engine Family: **YDDXL14.0TLD**

Manufacturer Family Name: **Series 60, 14L**

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
GS1	S60, 14L	635@1800	363.8	217.8	NA	NA	NA	EC TAA
1M23		600@2300	288.0	220.3	1900@1200	343.1	136.9	EC TAA
1A21		600@2100	301.3	210.4	1900@1200	351.4	140.2	EC TAA
1A18		600@1800	343.8	205.8	1900@1200	351.4	140.2	EC TAA
2A21		630@2100	318.5	222.4	1900@1200	349.2	139.3	EC TAA
1B21		550@2100	276.4	193.0	1750@1200	330.3	131.8	EC TAA
1B18		550@1800	312.9	187.3	1750@1200	330.3	131.8	EC TAA
2B20		533@2000	273.8	182.1	1750@1200	325.1	129.7	EC TAA
3B21		575@2100	283.5	198.0	1750@1200	324.8	129.6	EC TAA
3B18		575@1800	326.6	195.5	1750@1200	324.8	129.6	EC TAA
4B21		525@2100	260.6	182.0	1750@1200	324.8	129.6	EC TAA
4B18		525@1800	295.6	176.9	1750@1200	324.8	129.6	EC TAA
5B23		550@2300	263.8	201.8	1750@1200	332.7	132.7	EC TAA
1C23		600@2300	291.8	223.2	1650@1200	311.0	124.1	EC TAA
2C21		450@2100	226.3	158.0	1650@1200	314.2	125.4	EC TAA
2C18		450@1800	252.8	151.3	1650@1200	314.2	125.4	EA TAA

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TC, CAC, ECM